

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A patient physiologic monitoring assembly comprising:
a plurality of sensors generating a real-time physiologic data stream, said real-time physiologic data stream including a plurality of physiologic variables;
a first logic rule set including a plurality of logic rules for interpreting the plurality of physiologic variables;
a second logic rule set including a plurality of logic rules for interpreting the physiologic variables; and
a controller receiving said real-time physiologic data stream, said controller including a logic adapted to
cross reference said plurality of physiologic variables with the first logic rule set and second logic rule set; and
generate at least a first diagnostic interpretation of said plurality of physiologic variables utilizing said first logic rule set and a second diagnostic interpretation of said plurality of physiologic variable utilizing the said second logic rule set.
2. (Previously Presented) A patient physiologic monitoring assembly as described in claim 1, wherein said logic is further adapted to display said first and second diagnostic interpretations on a display element.
3. (Previously Presented) A patient physiologic monitoring assembly as described in claim 1, wherein said logic is further adapted to select said first logic rule set and said second logic rule set from a rules database, said rules database including a plurality of logic rule sets.
4. (Cancelled)

5. (Previously Presented) A patient physiologic monitoring assembly as described in claim 3, wherein said logic is further adapted to modify one of said plurality of logic rules within said first logic rule set.
6. (Original) A patient physiologic monitoring assembly as described in claim 5, wherein said modification comprises editing one of said plurality of logic rules.
7. (Original) A patient physiologic monitoring assembly as described in claim 5, wherein said modification comprises deleting one of said plurality of logic rules.
8. (Original) A patient physiologic monitoring assembly as described in claim 5, wherein said modification comprises adding a new logic rule to said first logic rule set.
9. (Previously Presented) A patient physiologic monitoring assembly as described in claim 3, wherein said logic is further adapted to add a new logic rule set to said rules database.
10. (Original) A patient physiologic monitoring assembly as described in claim 1, further comprising a plurality of networked medical facilities in communication with said controller such that said first logic rule set may be received from any of said plurality of networked medical facilities.
11. (Currently Amended) A method for providing diagnostic aid to a clinician monitoring the medical condition of a patient, the method comprising:
 - storing a plurality of sets of rule-based algorithms capable of generating ~~that can generate~~ different diagnostic interpretations of the same physiological data;
 - acquiring physiological data relating to the patient from at least one sensor;
 - ~~determining at least one rule-based algorithm to apply based upon the acquired data;~~
 - applying at least one rule-based algorithm from a first set of the of the plurality of the rule-based algorithms to the acquired data;

generating a first diagnostic interpretation based on the application of the at least one of the plurality of rule-based algorithms from the first set to the acquired data; ~~and~~
displaying the first diagnostic interpretation to the clinician;
applying at least one rule-based algorithm form a second et of the rule-based algorithms to the acquired data;
generating a second diagnostic interpretation based on the application of the at least one rule-based algorithm from the second set to the acquired data; and
displaying the second diagnostic interpretation to the clinician.

12. (Previously Presented) The method of claim 11, wherein determining which algorithm to apply comprises displaying a list of choices to a clinician and receiving a clinician input indicative of a selection made by the clinician.

13. (Previously Presented) The method of claim 11, wherein determining which rule-based algorithm to apply comprises receiving data relating to a characteristic of the patient, and selecting a rule-based algorithm to apply based on the electronic logical analysis of the received data relating to the characteristic of the patient.

14. (Previously Presented) The method of claim 13, wherein acquiring data relating to the patient comprises acquiring vital signs data.

15. (Cancelled)

16. (Currently Amended) The method of claim ~~11~~⁵⁹, further comprising:
storing the plurality of rule-based algorithms at a remote location; and
transferring the rule-based algorithm that is to be applied from the remote location.

17. (Original) The method of claim 11, wherein generating a response based on the application of at least one of the plurality of rule-based algorithms comprises generating an alarm.

18. (Cancelled)

19. (Cancelled)

20. (Currently Amended) The method of claim ~~11~~19, wherein generating a response is based on applying a plurality of rule-based algorithms from a set of rule-based algorithms.

21. (Cancelled)

22. (Currently Amended) The method of claim 21, further comprising generating an alarm based on the application of the plurality of algorithms.

23. (Cancelled)

24. (Currently Amended) The method of claim ~~72~~21, wherein acquiring patient data comprises acquiring physiological data relating to the patient from at least one sensor coupled to the subject.

25. (Currently Amended) The method of claim 24, wherein acquiring patient data further comprises acquiring data from a database record relating to the subject.

26. (Cancelled)

27. (Previously Presented) The method of claim 24, wherein acquiring data from at least one sensor comprises acquiring data from a plurality of sensors, the plurality of sensors configured to acquire data relating to a plurality of physiologic variables.

28. (Currently Amended) The method of claim ~~72~~21, further comprising generating a certainty score for each of the diagnostic interpretations.

29-59. (Cancelled)

60. (Currently Amended) The method of claim ~~7430~~, further comprising:
displaying the plurality of diagnostic interpretations to a clinician;
prompting the clinician for a selection of one of the plurality of diagnostic interpretations; and
receiving a selection from the clinician of one of the plurality of diagnostic interpretations.

61. (New) The method of claim 60, further comprising providing a certainty score for each of the plurality of displayed diagnostic interpretations.

62-65. (Cancelled)

66. (Currently Amended) A method of monitoring a patient, comprising:
acquiring data from a plurality of sensors that are coupled to a patient;
selecting a first rule set comprising a first plurality of rule-based algorithms based on the acquired data;
applying the first rule set to the acquired data to produce ~~aan at least one first plurality of~~ diagnostic interpretations;
displaying the ~~at least one first plurality of~~ diagnostic interpretations;
receiving a selection first based on a selected diagnostic interpretation of a second rule set comprising a second plurality of rule-based algorithms~~one of the plurality of diagnostic interpretations~~;
~~selecting a second rule set comprising a second plurality of rule-based algorithms based on the selected diagnostic interpretations~~;
applying the second rule set to the acquired data to produce at least one second~~a second plurality of~~ diagnostic interpretations; and
displaying the at least one second ~~plurality of~~ diagnostic interpretations.

67. (Currently Amended) The method of claim 66, wherein displaying at least one~~the~~ first or second ~~plurality of~~ diagnostic interpretations comprises displaying a certainty score for each diagnostic interpretation of the at least one~~plurality of~~ diagnostic interpretations.

68. (New) A patient physiologic monitoring assembly as described in claim 2, wherein said logic is further adapted to receive a selection of the first diagnostic interpretation or the second diagnostic interpretation from a clinician.

69. (New) The method of claim 11 wherein the plurality of rules of the first rule set are directed towards a first type of diagnostic interpretation and the plurality of rules of the second rule set are directed towards a second type of diagnostic interpretation.

70. (New) The method of claim 69 wherein the first type of diagnostic interpretation is a general case diagnostic interpretation and the second type of diagnostic interpretation is a specific case diagnostic interpretation.

71. (New) The method of claim 70 wherein the second type of diagnostic interpretation is a cardiological diagnostic interpretation.

72. (New) A method for diagnosing the medical condition of a patient, the method comprising:

acquiring patient data;

applying a first rule set comprising a plurality of rule-based algorithms to the acquired patient data, the first rule set comprising rule-based algorithms directed to producing at least one general diagnostic interpretation of the patient data based on the application of the first rule set;

evaluating the at least one general diagnostic interpretation to select a second rule set comprising a plurality of rule-based algorithms directed to producing at least one specific diagnostic interpretation;

applying the selected second rule set to the acquired patient data;

generating at least one specific diagnostic interpretation of the patient data based on the application of the second rule set;

displaying at least one specific diagnostic interpretation of the patient data based on the application of the second rule set.

73. (New) The method of claim 72 wherein the specific diagnostic interpretation is cardiological diagnostic interpretation.

74. (New) A method of monitoring the medical condition of a patient, comprising:
storing a plurality of rule sets configured to produce an independent diagnostic interpretation when applied to physiological data;

acquiring physiological data from a plurality of sensors coupled to the patient, the plurality of sensors acquiring physiological data relating to more than one patient characteristic;

selecting a first rule set from the plurality of rules sets based on the acquired physiological data;

applying the first rule set to the acquired physiological data;

generating a first diagnostic interpretation based on the application of the first rule set to the physiological data;

applying the second rule set to the acquired physiological data;

generating a second diagnostic interpretation based on the application of the second rule set to the physiological data.

75. (New) The method of monitoring the medical condition of a patient of claim 74 wherein the second rule set is selected based on the first diagnostic interpretation.

76. (New) A system for using rule based algorithms, comprising:

a data storage device configured to store a plurality of rule sets comprising a plurality of rule-based algorithms;

a data acquisition device configured to acquire data from a patient;

a controller that receives and processes the acquired data;
a first logic configured to select a first rule set from the data storage device to be applied to the acquired data, the rule set being selected based on the acquired data; and
a second logic configured to select a second rule set from the data storage device to be applied to the acquired data, the second rule set being selected based on the acquired data;
wherein the controller receives the selected first rule set and second rule set, applies the first rule set to the acquired data to produce a first diagnostic interpretation of the acquired data, and applies the second rule set to the acquired data to produce a second diagnostic interpretation of the acquired data.

REMARKS

The Office Action mailed on March 26, 2007 has been carefully considered by Applicant.

By the present amendment, the claims in the present application have been amended to more particularly point out and distinctly claim the subject matter believed allowable over the references applied by the Examiner. In the Office Action, claims 1-3, 5-35, 45, 51, 53, 56-57 and 64-67 have been rejected under 35 U.S.C. §102(b) as being anticipated by Cairnes U.S. Patent No. 6,139,494 (hereinafter Cairnes). Claims 33, 35, 38, 42, 45, and 63 have been rejected under 35 U.S.C. §102(b) as being anticipated by Walker et al. U.S. Patent No. 6,302,844 (hereinafter Walker et al.). Claims 38 and 42 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Cairnes in further view of Walker et al.

Claim 1

Claim 1 has been previously presented to the Examiner with the argument that Cairnes fails to teach an apparatus that applies a first logic rule set and a second logic rule set to a plurality of physiological variables to produce a first diagnostic interpretation based on the first logic rule set and a second diagnostic interpretation based on the application of the second logic rule set.

The Examiner references the disclosure of Cairnes as “analyzing the medical sign and symptom data of the patient according to a plurality of clinical case management rules; generating clinical case management information of the patient from the analyzing step; [and] assigning the patient at least one therapy responsive to the generating step” as teaching the rule sets and application thereof as claimed in claim 1.

Applicant respectfully disagrees with the Examiner’s characterization of the disclosure of Cairnes. Cairnes does not teach the application of at least a first rule set and a second rule set to the physiological data with the application of each rule set resulting in a diagnosis. As is specifically claimed in claim 1, each rule set comprises a plurality of rules. Therefore, the reference cited by the Examiner “....a plurality of clinical case management rules....at least one therapy...” only teaches a single rule set comprising a plurality of rules. Nowhere in the disclosure of Cairnes is the concept of a second rule set with a plurality of

rules to be applied to the physiological data. The use of two separate rule sets, each having a plurality of rules, allows for the creation of a first and a second diagnostic interpretation, unlike the single interpretation taught by the Cairnes reference.

Additionally, claim 1 claims a patient physiologic monitoring assembly in an apparatus claim and therefore the functionality described in the method of Cairnes of "...a plurality of clinical case management rules....at least one therapy and..." is not a sufficient disclosure to reject the claimed structure of a first logic rule set and a second logic rule set as claimed in claim 1.

In light of the aforementioned distinction of the apparatuses claimed in claim 1 and the disclosure in the Cairnes reference, claim 1 is believed presently allowable.

Claim 68

Newly presented claim 68 is dependent from claim 1 and further includes the limitation that the controllers are adapted to display the first and second diagnostic interpretations on a display element and the controller is adapted to receive a selection of the first diagnostic interpretation or the second diagnostic interpretation from a clinician. Claim 68 further distinguishes the invention as claimed in claim 1 from the disclosure of Cairnes. Cairnes fails to teach the display of multiple diagnostic interpretations relating to the same physiological data to a clinician. Furthermore, Cairnes fails to teach an apparatus that receives a selection of one or more of the diagnostic interpretations by a clinician.

Cairnes teaches the presentation of at least one therapy to a patient, with the periodic transmission of an exemplary therapy to a clinician for quality control and the review of the case management rules. Therefore, Cairnes does not teach the assembly as claimed in claim 68 that provides a tool for the physiologic monitoring of a patient that can be used by the clinician to aid in diagnosis. As such, claim 68 is believed to be independently allowable for the reasons stated above as well as the subject matter recited therein.